Claims

I claim:

1.   A telephone system, for providing directory assistance (DA) services in response to a DA service number received from a calling party telephone having a directory number (DN), the DN identifying the type of calling party telephone, including internet protocol (IP) telephones capable of accessing the telephone

5   system through the public switched telephone network (PSTN) and through the public internet, the system comprising:

a DA signal processor, having a DA signal memory for storing the DN of a plurality of party telephones, each DN being stored in said DA signal memory in relationship with additional party information; and

10   a telephone switch, responsive to receipt of a DA service number, and having a switch signal processor and a switch signal memory for storing program signals, for:

determining the type of calling party telephone;

reporting the requested DA information in voice format to the calling

15   party telephone; and

forwarding the requested DA information in data file format to the calling party telephone in the presence of an identified IP telephone.

2.   The telephone system of claim 1, wherein said step of reporting by said telephone switch, comprises:

connecting the calling party to a DA service operator for receiving the calling party requested information in voice format;

5   forwarding the requested information from the operator as a search request to said DA signal processor;

retrieving the results of said search request from said DA signal processor as a DA information response data file; and

formulating said DA information response data file in voice format

10   for report to the calling party telephone

3.   The telephone system of claim 2, further comprising:

a signal gateway, interconnected for response to the telephone system and to the public internet, for:

5   receiving said DA information response data file from the telephone system; and

transmitting, in the presence of an identified IP telephone, said DA information response data file through the public internet to the calling party IP telephone.

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4.   The telephone system of claim 3 wherein said signal gateway receives said DA information response data file from said DA signal processor.

5.   The telephone system of claim 3, wherein said signal gateway receives said DA information response data file from said switch signal processor.

6.   The telephone system of claim 2, further comprising:

a signal gateway, interconnected for response to said DA signal processor and to the public internet, for:

receiving signal requests for DA services which are forwarded through 5   the public internet from an IP telephone in an internet protocol (IP) data file format, and translating, as necessary, the IP data file format to the telephone system operating protocol;

forwarding the signal request for DA services to said DA signal processor and retrieving said DA information response data file therefrom and 10   translating, as necessary, said DA information response data file to an IP format DA information response data file; and

forwarding said IP format DA information response data file through the public internet to the IP telephone.

7.   A telephone system, of the type having a switched circuit network (SCN) signal protocol which provides directory assistance (DA) services in response to a DA service number received from a calling party telephone having a directory number (DN), the DN identifying the type of calling party telephone,

5   including switched circuit network (SCN) telephones and internet protocol (IP) telephones, the IP telephones being capable of accessing the telephone system through the public switched telephone network (PSTN) and through the public internet, the system comprising:

       a signal gateway, interconnected for response to the telephone system

10   and to the public internet;

       a DA signal processor, having a DA signal memory for storing the DN of a plurality of party telephones, each DN being stored in said DA signal memory in relationship with additional party information;

       a telephone switch, responsive to receipt of a DA service number, and

15   having a switch signal processor and a switch signal memory for storing program signals, for:

              determining the type of calling party telephone;

              connecting the calling party to a DA service operator for receiving the calling party requested information in voice format;

20   forwarding the requested information from the operator as a search request to said DA signal processor;

              retrieving the results of said search request from said DA signal processor as a DA information response data file, and for providing formulation thereof in voice format for report to the calling party

25   telephone; and

              reporting the requested DA information in voice format to the calling party telephone;

       and wherein said DA signal processor provides for:

              receiving said search request from said switch signal processor;

30   providing said DA information response data file to said switch

signal processor in response thereto; and

forwarding, in response to said determination of the presence of an

IP telephone; said DA information response data file to said signal

gateway for transmittal to the IP telephone through the public internet.

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8.   The telephone system of claim 7 wherein said signal gateway receives

said DA information response data file from said DA signal processor.

9.   The telephone system of claim 7, wherein said signal gateway receives

said DA information response data file from said switch signal processor.

10.   .The telephone system of claim 7, wherein said signal gateway is

interconnected for response to said DA signal processor and to the public

internet, for:

receiving signal requests for DA services which are forwarded through

5   the public internet from an IP telephone in an internet protocol (IP) data file

format, and translating the IP data file format to the telephone system SCN

operating protocol;

forwarding the signal request for DA services to said DA signal

processor and retrieving said DA information response data file therefrom;

10   providing translation of said DA information response data file from an

SCN protocol to an IP format DA information response data file; and

transmitting said IP format DA information response data file through

the public internet to the IP telephone.

11.   The method of providing directory assistance (DA) services from a

telephone system in response to a DA service number received from a calling

party telephone having a directory number (DN), the DN identifying the type of

calling party telephone, including internet protocol (IP) telephones capable of

5   accessing the telephone system through the public switched telephone network (PSTN) and through the public internet, the telephone system having a switch signal processor, a DA signal processor, and a DA signal memory for storing the DN of a plurality of party telephones, each DN being stored in said DA signal memory in relationship with additional party information; the method

10   comprising:

connecting a signal gateway between the telephone system and the public internet;

having the switch signal processor receive the DA service number and provide for:

15   receiving the DA service number and determining the type of calling party telephone;

reporting the requested DA information in voice format to the calling party telephone; and

forwarding, in response to the presence of an identified calling party

20   IP telephone, the requested DA information to said signal gateway for transmittal through the public internet to the calling party IP telephone.

12.   The method of claim 11, wherein said step of reporting by said switch signal processor, comprises:

connecting the calling party to a DA service operator for receiving the calling party requested information in voice format;

5   forwarding the requested information from the operator as a search request to the DA signal processor;

retrieving the results of said search request from said DA signal processor as a DA information response data file; and

formulating said DA information response data file in voice format

10   for report to the calling party telephone

13.   The method of claim 11 wherein said signal gateway receives said DA information response data file from the DA signal processor.

14.   The method of claim 11, wherein said signal gateway receives said DA information response data file from the switch signal processor.

15   The method of claim 11, wherein said signal gateway further provides for:

        receiving internet signal requests for DA services through the public internet from an IP telephone in an internet protocol (IP) data file format, and, as necessary, translating the IP data file format to the telephone system operating protocol;

        forwarding the internet signal request for DA services to the DA signal processor and retrieving said DA information response data file therefrom;

        translating, as necessary, said DA information response data file to an IP format DA information response data file; and

        transmitting said IP format DA information response data file through the public internet to the IP telephone.

16.   The method of providing directory assistance (DA) services from a DA server of a telephone switching system to an internet protocol (IP) telephone located in an IP network, the IP network being of the type having an IP gateway capable of connecting the IP telephone to the telephone switching system, the method comprising:

        adding a signal gateway to the telephone switching system, said signal gateway being capable of transferring information in data format from the telephone system to the IP network;

        connecting the DA server data signal output to said signal gateway;

        causing the telephone switching system to recognize the IP telephone as an interface device capable of receiving information in voice and data format;

and

      having the telephone switching system, in response to each IP telephone request for DA information received thereby, command the DA server to

15   provide the requested DA service information in data format through said signal gateway and the IP network to the IP telephone.